

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter I of the Patent Cooperation Treaty)

(PCT Rule 44*bis*)

Applicant's or agent's file reference 257-Q-10-PCT	FOR FURTHER ACTION	See item 4 below
International application No. PCT/IL2007/001404	International filing date (<i>day/month/year</i>) 13 November 2007 (13.11.2007)	Priority date (<i>day/month/year</i>) 13 November 2006 (13.11.2006)
International Patent Classification (8th edition unless older edition indicated) See relevant information in Form PCT/ISA/237		
Applicant Q-CORE LTD.		

1.	This international preliminary report on patentability (Chapter I) is issued by the International Bureau on behalf of the International Searching Authority under Rule 44 <i>bis</i> .1(a).																								
2.	This REPORT consists of a total of 7 sheets, including this cover sheet. In the attached sheets, any reference to the written opinion of the International Searching Authority should be read as a reference to the international preliminary report on patentability (Chapter I) instead.																								
3.	<p>This report contains indications relating to the following items:</p> <table style="width: 100%;"> <tr> <td style="width: 10%; text-align: center;"><input checked="" type="checkbox"/></td> <td style="width: 30%;">Box No. I</td> <td style="width: 60%;">Basis of the report</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Box No. II</td> <td>Priority</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Box No. III</td> <td>Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Box No. IV</td> <td>Lack of unity of invention</td> </tr> <tr> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td>Box No. V</td> <td>Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Box No. VI</td> <td>Certain documents cited</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Box No. VII</td> <td>Certain defects in the international application</td> </tr> <tr> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td>Box No. VIII</td> <td>Certain observations on the international application</td> </tr> </table>	<input checked="" type="checkbox"/>	Box No. I	Basis of the report	<input type="checkbox"/>	Box No. II	Priority	<input type="checkbox"/>	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability	<input type="checkbox"/>	Box No. IV	Lack of unity of invention	<input checked="" type="checkbox"/>	Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement	<input type="checkbox"/>	Box No. VI	Certain documents cited	<input type="checkbox"/>	Box No. VII	Certain defects in the international application	<input checked="" type="checkbox"/>	Box No. VIII	Certain observations on the international application
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4.	The International Bureau will communicate this report to designated Offices in accordance with Rules 44 <i>bis</i> .3(c) and 93 <i>bis</i> .1 but not, except where the applicant makes an express request under Article 23(2), before the expiration of 30 months from the priority date (Rule 44 <i>bis</i> .2).																								

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland	Date of issuance of this report 19 May 2009 (19.05.2009)
Facsimile No. +41 22 338 82 70	Authorized officer <div style="text-align: center; font-weight: bold;">Simin Baharlou</div> e-mail: pt09.pct@wipo.int

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To:
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PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

Applicant's or agent's file reference 257-Q-10-PCT		Date of mailing (day/month/year) 14 JUL 2008
International application No. PCT/IL07/01404		FOR FURTHER ACTION See paragraph 2 below
International filing date (day/month/year) 13 November 2007 (13.11.2007)	Priority date (day/month/year) 13 November 2006 (13.11.2006)	
International Patent Classification (IPC) or both national classification and IPC IPC: F04B 43/08 (2006.01); F04B 43/12 (2006.01); F04B 45/06 (2006.01) USPC: 417/474-476;417/477.1-477.14		
Applicant Q-CORE LTD.		

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☒ Box No. VIII Certain observations on the international application

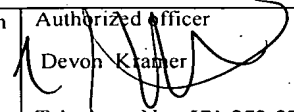
2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/ US Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (571) 273-3201	Date of completion of this opinion 06 June 2008 (06.06.2008)	Authorized officer  Devon Kramer Telephone No. 571-272-3700
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WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/IL07/01404

Box No. 1 Basis of this opinion

1. With regard to the **language**, this opinion has been established on the basis of:

- ☒ the international application in the language in which it was filed
- ☐ a translation of the international application into _____, which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).

2. ☐ This opinion has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43bis.1(a))3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, this opinion has been established on the basis of:

a. type of material

- ☐ a sequence listing
- ☐ table(s) related to the sequence listing

b. format of material

- ☐ on paper
- ☐ in electronic form

c. time of filing/furnishing

- ☐ contained in the international application as filed.
- ☐ filed together with the international application in electronic form.
- ☐ furnished subsequently to this Authority for the purposes of search.

4. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

5. Additional comments:

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITYInternational application No.
PCT/IL07/01404**Box No. V Reasoned statement under Rule 43 bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N)

Claims NONE YESClaims 1-9 NO

Inventive step (IS)

Claims NONE YESClaims 1-9 NO

Industrial applicability (IA)

Claims 1-9 YESClaims NONE NO

2. Citations and explanations:

Please See Continuation Sheet

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/IL07/01404

Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the questions whether the claims are fully supported by the description, are made:

Claim 1 is objected to under PCT Rule 66.2(a)(v) as lacking clarity under PCT Article 6 because the phrases "preferably" and "is adapted" make it unclear whether the corresponding structure is required by the claim.

Claim 2 is objected to under PCT Rule 66.2(a)(v) as lacking clarity under PCT Article 6 because the phrase "and/or" makes it unclear whether the corresponding structure is required by the claim.

Claim 6 is objected to under PCT Rule 66.2(a)(v) as lacking clarity under PCT Article 6 because the phrase "e.g." makes it unclear whether the corresponding structure is required by the claim.

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/IL07/01404

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

V. 2. Citations and Explanations:

Claims 1-9 lack novelty under PCT Article 33(2) as being anticipated by U.S. Patent 5,213,483 to Flaherty et al. (Flaherty et al.).

In Reference to Claim 1

Flaherty et al. teach a keying mechanism (see figures 3a and 3b) for a finger-type peristaltic infusion pump (DDS) (rollers (88) act as fingers) operated by a specified pumping protocol (each keying mechanism has a designated flow rate, see column 6 lines 9-18), the DDS is interconnected with one of a plurality of passive mechanical interface (MS) (there are a plurality of receivers (24)) that accommodates a portion of a flexible infusion-tube (receivers (24) hold tubes (13)), preferably wherein a specified MS is adapted form a specific infusion protocol that correlates with said pumping protocol (each receiver holds a specific size tube which correlates to a given flow rate for the pump, see column 5 lines 24-54); wherein said keying mechanism is an integral geometric mechanical interface (receiver keyways (64, 66) and key elements (70, 72) are geometric, mechanical interfaces) that ensures complete matching between said DDS' pumping protocol and said specified MS.

In Reference to Claim 2

Flaherty et al. teach the keying mechanism of claim 1, wherein said integral geometric interface comprises two or more replaceable mechanical subunits (two different receiver units are shown in figures 3a and 3b) and/or two or more unrelated physical dimensions, so as by replacing said one or more subunits alters, a specific DDS' pumping protocol and correlated MS is selected (each separate receiving unit is associated with a given tube size and pump flow rate, see column 5 lines 24-54).

In Reference to Claim 3

Flaherty et al. teach the keying mechanism of claim 2, wherein said two or more replaceable mechanical subunits are interconnected in a male-female fitting mechanism (the receiver (24) portion of the keyways (64, 66) act as the female components for the male key elements (70, 72)).

In Reference to Claim 4

Flaherty et al. teach the keying mechanism of claim 1, comprising a master keying mechanism wherein at least one MS is adapted to be utilized in a plurality of all DDS' pumping mechanisms (The receiver attaches to the pump unit via latch elements (46) which is compatible with every pump and every pump's mechanisms. That is, the attachment of the receiver to the pump does not change from receiver to receiver.).

In Reference to Claim 5

Flaherty et al. teach The keying mechanism of claim 4, wherein said master keying mechanism is adapted to match at least one MS of a given characterization with a plurality of N predetermined DDS' pumping mechanisms; N is any integer number, selected from either defined or not defined number of MS-DDS possible combinations (Each receiver can be attached to a single pump unit. Thus in

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/IL07/01404

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

this case N is equal to one.).

In Reference to Claim 6

Flaherty et al. teach the keying mechanism as defined in claim 1 or in any of its dependent claims; said MS is characterized by upstream and downstream opposite ends (each receiver has an upstream end, located by (70), and a downstream end, located by (72), see column 4 lines 36-53), said MS comprises a saddle-like catch (saddle), located e.g., at the downstream end of the MS (half of the saddle element (40a) is located at the downstream end of the receiver); said DDS comprises a barrel-like axle (barrel) of the DDS, located e.g., at the downstream portion of said DDS (the rollers (88) are annular in shape and are located at the downstream end of the pump at specific times in the pump cycle); wherein said barrel is adapted to fit the saddle by means of shape and size (the barrel fits in the saddle to press the liquid along through the tube) such that (a) a two-parts hinge is provided at time said saddle and barrel are integrated (the two latch elements (46) fit into holes (50) when the pump is coupled to the receiver) and (b) complete matching between said DDS' pumping protocol and said specified MS is ensured.

In Reference to Claim 7

Flaherty et al. teach the keying mechanism of claim 3, comprising a single integral geometric mechanical interface (receiver keyways (64, 66) and key elements (70, 72) are geometric, mechanical interfaces) that ensures complete matching between said DDS' pumping protocol and said specified MS; said mechanical interface is characterized by at least two dimensions of said female subunits or male subunits (the keys and keyways are three dimensional objects), especially in (a) a mechanism wherein one dimension increases, the second respectively decreases; (b) a mechanism wherein one dimension increases, the second respectively increases; and especially wherein said dimensions are selected from size, diameter or a combination thereof (the size and shape of the keys and keyways is varied).

In Reference to Claim 8

Claim 8 is objected to under PCT Rule 66.2(a) as it references a table found in the specification. Furthermore, Flaherty et al. generally teach that the size and shape of the keys and keyways should be varied which anticipates the information disclosed in applicant's table 1.

In Reference to Claim 9

Flaherty et al. teach a method of keying a finger-type peristaltic infusion pump (DDS) operated by a specified pumping protocol, said DDS (pump device (26)) is interconnected with one of a plurality of passive mechanical interface (MS) (receivers (24)) that accommodates a portion of a flexible infusion-tube (tube (13)), preferably wherein a specified MS is adapted form a specific infusion protocol that correlates with said pumping protocol (each receiver is associated with a specific pump flow rate, see column 5 lines 24-54); said method comprising steps of providing an integral geometric mechanical interface (receiver keyways (64, 66) and key elements (70, 72) are geometric, mechanical interfaces) and hence ensuring a complete matching between said DDS' pumping protocol and said specified MS.

Claims 1-9 meet the criteria set out in PCT Article 33(4), and thus have industrial applicability because the subject matter claimed can be made or used in industry.